

## § 160.174-23

(g) *Test for oil resistance.* After all its apertures have been sealed, a thermal protective aid is immersed under a 100 mm head of diesel oil, grade no. 2-D as defined in ASTM D 975 (incorporated by reference, see § 160.174-3), for 24 hours. The surface oil is then wiped off and a sample of the material from the aid is again tested in accordance with the procedures in ASTM C 177 or ASTM C 518 (incorporated by reference, see § 160.174-3). The material must still have a thermal conductivity of not more than 0.25 W/(m-° K).

(h) *Seam strength.* The strength of each different type of seam used in a thermal protective aid must be tested under the following conditions and procedures.

(1) *Test equipment.* The following equipment must be used in this test:

(i) A chamber in which air temperature can be kept at 25 °C (73.4 °F) ±2 °C (1.8 °F) and in which relative humidity can be kept at 50% ±5%.

(ii) A device to apply tension to the seam by means of a pair of top jaws and a pair of bottom jaws. Each set of jaws must grip the material on both sides so that it does not slip when the load is applied. Each front jaw must be 25 mm (1 inch) wide by 25 mm (1 inch) long. The distance between the jaws before the load is applied must be 75mm (3 inches).

(2) *Test samples.* Each test sample consists of two pieces of the material from which the thermal protective aid is constructed, each of which is 100 mm (4 inches) square. The two pieces are joined by a seam as shown in figure 160.171-17(m)(3). For each type of seam, 5 samples are required. Each sample may be cut from a thermal protective aid or may be prepared specifically for this test. One type of seam is distinguished from another by the type and size of stitch or other joining method used (including orientation of warp and fill, if any) and by the type and thickness of the materials joined at the seam.

(3) *Test procedure.* Each sample is conditioned for at least 40 hours at 23 °C±2 °C and 50% ±5% relative humidity. Immediately after conditioning, each sample is mounted individually in the tension device as shown in figure 160.171-17(m)(3). The jaws are separated

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at a rate of 5 mm/second (12 in/minute). The maximum force to achieve rupture is recorded. The average force at rupture must be at least 225 Newtons (50 lb).

(i) *Tear resistance.* The tear resistance of the material from which a thermal protective aid is constructed must be determined by the method described in ASTM D 1004 (incorporated by reference, see § 160.174-3). If more than one material is used, each material must be tested. If varying thicknesses of a material are used in the aid, samples representing the thinnest portion of the material must be tested. If multiple layers of a material are used in the aid, samples representing the layer on the exterior of the aid must be tested. Any material that is a composite formed of two or more materials bonded together is considered to be a single material. The average tearing strength of each material must be at least 45 Newtons (10 lb).

[CGD 84-069b, 51 FR 19343, May 29, 1986, as amended by CGD 84-069a, 52 FR 1197, Jan. 12, 1987; USCG-2000-7790, 65 FR 58464, Sept. 29, 2000]

## § 160.174-23 Marking.

(a) Each thermal protective aid must be marked with the words “Thermal Protective Aid,” the name of the manufacturer, the model, the date of manufacture or a lot number from which the date of manufacture may be determined, and the Coast Guard approval number.

(b) Each storage case must be marked with the words “Thermal Protective Aid” or the thermal protective aid must have a similar marking which is visible through a transparent storage case.

## § 160.174-25 Production testing.

(a) Thermal protective aid production testing is conducted under the procedures in this section and subpart 159.007 of this chapter.

(b) One out of every 100 thermal protective aids produced must be given a complete visual examination. The sample must be selected at random from a production lot of 100 thermal protective aids and examined by or under the

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supervision of the independent laboratory. The sample fails if the visual examination shows that the aid does not conform to the approved design.

(c) If a defect in the thermal protective aid is detected upon visual examination, 10 additional samples from the same lot must be selected at random and examined for the defect.

(d) If one or more of the 10 samples fails the examination, each thermal protective aid in the lot must be examined for the defect for which the lot was rejected. Only thermal protective aids that are free of defects may be sold as Coast Guard approved.

[CGD 84-069b, 51 FR 19343, May 29, 1986; 51 FR 20650, June 6, 1986]

### Subpart 160.176—Inflatable Lifejackets

SOURCE: CGD 78-174b, 54 FR 50320, Dec. 5, 1989, unless otherwise noted.

#### § 160.176-1 Scope.

(a) This subpart contains structural and performance standards and procedures for approval of inflatable lifejackets, as well as requirements for associated manuals, servicing programs, and shore-side service facilities.

(b) Other regulations in this chapter provide that inflatable lifejackets must be:

(1) Serviced annually at designated servicing facilities; and

(2) Maintained in accordance with their user manuals.

(c) Inflatable lifejackets approved under this subpart—

(1) Rely entirely upon inflation for buoyancy;

(2) Meet the requirements for lifejackets in the 1983 Amendments to the International Convention for the Safety of Life at Sea, 1974 (SOLAS 74/83);

(3) Have performance equivalent to Type I Personal Flotation Devices (PFD's) with any one chamber deflated; and

(4) Are designed to be worn by adults.

#### § 160.176-2 Application.

(a) Inflatable lifejackets approved under this subpart may be used to meet carriage requirements for Type I PFD's only on:

(1) Uninspected submersible vessels; and

(2) Inspected vessels for which a servicing program has been approved by the Commandant.

(b) [Reserved]

#### § 160.176-3 Definitions.

(a) *Commandant* means the Chief of the Lifesaving and Fire Safety Division, Marine Safety and Environmental Protection. Address: Commandant (CG-5214), U.S. Coast Guard Headquarters, 2100 2nd St., SW., Stop 7126, Washington, DC 20593-7126.

(b) *First quality workmanship* means construction which is free from any defect materially affecting appearance or serviceability.

(c) *Functional deterioration* means—

(1) Damage such as deformation in hardware or a rip, tear, or loose stitches;

(2) Decline in any performance characteristic; or

(3) Any other change making the lifejacket unfit for use.

(d) *Functional residual capacity* (FRC) means the amount of lung volume a person has remaining at the bottom of the normal breathing cycle when at rest.

(e) *Inflation medium* means any solid, liquid, or gas, that, when activated, provides inflation for buoyancy.

(f) *Inspector* means an independent laboratory representative assigned to perform the duties described in § 160.176-15 of this subpart.

(g) *PFD* means personal flotation device as defined in 33 CFR 175.13.

(h) *Reference vest* means a model AK-1 PFD meeting subpart 160.047 of this part, except that, in lieu of the weight and displacement values prescribed in Tables 160.047-4(c)(2) and § 160.047-4(c)(4), each front insert must have a weight of kapok of at least 8.25 oz. and a volume displacement of 9.0  $\pm$  0.25 lb., and the back insert must have a weight of kapok of at least 5.5 oz. and a volume displacement of 6.0  $\pm$  0.25 lb. To achieve the specified volume displacement, front insert envelopes may be larger than the dimensions prescribed by § 160.047-1(b).

(i) [Reserved]

(j) *Second stage donning* means adjustments or steps necessary to make a